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REMARKS

Applicant's invention is directed to a local interconnect that in one embodiment comprises first and second metal silicides and an intermetallic compound. The intermetallic compound comprises metals from the first and second metal silicides and contains no non-metallic materials. In an embodiment described in the specification at page 13 and illustrated in Figs. 6 and 7, interconnect 37 is a composite structure that includes the intermetallic compound TiW, where the titanium comes from an underlying titanium layer 32 and the tungsten comes from metal silicide layer 34. The intermetallic compound reduces the electrical resistance of the local interconnect and increases its adhesion characteristics. See, page 13, lines 16-17.

In the most recent Office Action, the Examiner rejected claims 31-40 under 35 USC §112, ¶1 as lacking written descriptive support for the phrase "intermetallic compound separating said first metal silicide from said second metal silicide." Applicant has now excised the offending phrase from independent claims 31, 35, 37, and 38. In its place, applicant has inserted the phrase "reducing the resistance of said local interconnect." Basis for this amendment is found in the specification at page 13, lines 16-17. Applicant submits that the claims are now in compliance with 35 USC §112.

Also in the most recent Office Action, the Examiner rejected claims 31-34 under 35 USC §102 as anticipated by Okamoto. The Examiner referred to Fig. 4D of Okamoto and asserted that Okamoto showed,

"an interconnect comprising a composite structure comprising a first metal silicide 4, a second metal silicide 8, and an intermetallic compound 10 comprising metal from the first metal silicide and metal from the second metal silicide; wherein the first metal silicide may comprise titanium silicide (col. 4, l. 43) and the second metal silicide may comprise tungsten silicide (col. 6, l. 49-51), and intermetallic compound 10 comprises titanium tungsten (TiW) (col. 6, l. 64-66)."

As described by Okamoto and shown in the figures, any "composite" structure would be layer 30, a ternary silicide film formed by the reaction of silicide film 4 and silicide film 8 (col. 5, lines 35-48). Film 10 is described as comprised of titanium nitride, is

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positioned on film 8, and serves as a barrier layer to aluminum diffusion (col. 6, lines 7-26). The TiN film is formed separately by sputtering (col. 4, lines 27-29).

Thus, the metals in film 10 are not "from" the first and second metal silicides in films 4 and 8 as recited in claim 31. Rather, film 10 is separately deposited in a different process step. The Examiner has apparently confused "from" with "the same as." Even then, one skilled in the art would have to pick and choose from among numerous possible first and second silicide film compositions (see, e.g., col. 6, lines 52-63). Such a requirement for picking and choosing negates anticipation. *In re Arkley*, 172 USPQ 524 (CCPA 1972). For that reason alone, the rejection fails.

Further, the term "from" may be defined as "out of; derived or coming out of." Webster's New Twentieth Century Dictionary (unabridged) 2d ed.(1983). If one were to properly pick and choose, it could be said that the metals in Okamoto's layer 10 were the same as the metals in the silicide films 4 and 8. However, it could *not* be said that the metals in film 10 were "from" films 4 and 8. Okamoto's film 10 is not the same composition as that claimed in claim 31 and does not perform the same function as recited. Okamoto does not anticipate claims 31-34 as amended.

Also in the Office Action, the Examiner rejected claims 35-41 under 35 USC §103 as unpatentable over Okamoto in view of Shepard. The Examiner relied upon Okamoto for exactly the same teaching as in the preceding §102 rejection. As discussed in detail above by applicant, Okamoto's film 10 is different in both composition and function from the claimed invention. The Examiner relied upon Shepard simply to show the conventional structure of a local interconnect used to connect the source, drain, or gate of a field effect transistor. Even if one were to use the Okamoto film structure in the device of Shepard, the claimed invention would not result.

Further, with respect to the Examiner's comments concerning the language of independent claim 41, to the extent that process language in a product claim distinguishes over the prior art, such language must be given the same consideration as traditional product language. *In re Luck*, 177 USPQ 523 (CCPA 1973). Claim 41 recites that the intermetallic compound comprises metals "from" the first and second silicides and is formed by a reaction between the first and second metal silicides. Okamoto's film 10 is

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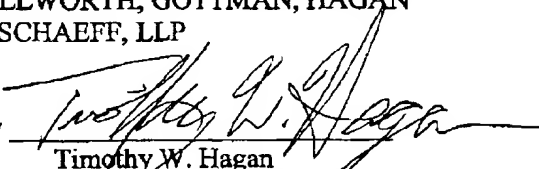
not formed "from" first and second metal silicide films 4 and 8. Film 10 is different both compositionally and functionally from the claimed composite structure.

For all of the above reasons, applicant submits that claims 31-41 as amended are in compliance with §112 and are patentable over the applied art of record. Early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,

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